

WHAT IS CLAIMED IS:

1. A mixing and discharge device comprising:
a pair of containers (33) standing next to each other and respectively provided with a discharge nozzle (35) having an open/close function;
an attachment (26), which is fitted firmly around the top portions of said containers (33) and which comprises an elliptic cylinder (27) to be fitted tightly around the top portions of the bodies of said pair of containers (33), a top inward brim (28) disposed on the top edge of the elliptic cylinder (27), and an opening (29) from which the discharge nozzles (35) come out; and
a cap unit (8) to be fitted detachably to the discharge nozzles (35) and provided with a passage block (17), which comprises a pair of step holes (23) disposed in the areas near both sides, and into which the discharge nozzles (35) are fitted tightly from underside, a discharge cylinder (19) disposed at the center and on top of this unit (8) to form a discharge port, and discharge passages (21) for connecting this discharge port with the step holes (23);
wherein said mixing and discharge device also comprises: a pair of hanging plates (51) that comes out of the central, front and rear portions of the passage block (17) and hangs down on the front and rear walls of the elliptic cylinder (27); a pair of manipulating plates (55) extending from the lower end of either one of said hanging plates (51) or the elliptic cylinder (27); descendible projections (16), which are provided respectively with a guide slope (16a) and disposed on the manipulating plates (55) at positions opposite to valley-shaped portions that are formed in abutment with the bodies of said pair of containers (33), with the tip of the guide slope (16a) being set at a height under the lower end of said elliptic cylinder (27); and a pair of edges of contact (57) disposed at the other one of the hanging plates (51) or the elliptic cylinder (27) at positions opposite to said guide slopes (16a), and wherein a force to pull down the cap unit (8) is actuated by depressing said manipulating plates (55) in the lateral direction and sliding said guide slopes (16a) over the edges of contact (57).
2. The mixing and discharge device, according to Claim 1, wherein semicircular connecting guides (30) are standing upright from the edge of the top inner brim (28) of the elliptic cylinder (27), and wherein guide slits (17a) are opened in a part of the passage block (17), and into which the upward semicircular connecting guides (30) are fitted in a manner that said guides (30) can be slidably moved upward or downward through these guide slits (17a).

3. The mixing and discharge device according to Claim 1, wherein the containers (33) are aerosol containers.

4. The mixing and discharge device according to Claim 1, which comprises: manipulating plates (55) disposed respectively under the hanging plates (51) as the extensions thereto;

the edge of contact (57) to be used being the lower edge of contact (57a), which is a part of the lower edge of the elliptic cylinder (27); and

a pair of descendible projections (16) disposed at positions on the inner surfaces of the manipulating plates (55), facing the lower edge of contact (57a), each of said projections having a guide slope (16a) inclined downward so as to come in sliding contact with the lower edge of contact (57a),

wherein said guide slope (16a) extends upward from the level of contact with the lower edge of contact (57a) up to a height at least enough to be able to open the discharge nozzles (35), under the condition that the cap unit (8) remains upheld by the discharge nozzles (35).

5. The mixing and discharge device according to Claim 4, wherein each of the front and rear surfaces of the elliptic cylinder (27) is provided with a pair of support plates (32) at the vertical positions on both sides of, and close to, the hanging plate (51) and the manipulating plate (55), and is projected laterally at a height larger than those of the outer surfaces of the hanging plate (51) and the manipulating plate (55).

6. The mixing and discharge device according to Claim 5, wherein step latches (55a) are formed on both sides of each manipulating plate (55) by expanding the width of the manipulating plate at the lower part thereof, and are clicked into place when the latches have climbed over the lower edges of the support plates (32).

7. The mixing and discharge device according to Claim 6, wherein a clicking sound is emitted due to the elastic recovery deformation when the step latches (55a) have climbed over the edges of the support plates (32) and clicked into place.

8. The mixing and discharge device according to Claim 1, which comprises: a window-like opening (60) cut in both hanging plates (51) in the area ranging from the height of almost the central part to the lower end of each hanging plate (51);

a manipulating plate (55) disposed in the extended portion of each hanging plate (51), which extends upward from the lower end via the fold at the bottom;

a pair of outward brims (58) extending from the lower edge of the elliptic cylinder (27) at its central, front and rear portions;

the edge of contact (57) to be used being the lower edge of contact (57c), which is a part of the lower edge of the outward brim (58); and

a descendible projection (16) disposed on the inner surface of each manipulating plate (55), at the position in which the lower edge of contact (57c) on the outward brim (58) faces the opening (60) in the hanging plate (51), each projection having a guide slope (16a) inclined downward so as to come in sliding contact with the lower edge of contact (57c), with said guide slope (16a) extending upward from the level of contact with the lower edge of contact (57c) on the outward brim (58) up to a height at least enough to be able to open the discharge nozzles (35), under the condition that the cap unit (8) remains upheld by the discharge nozzles (35) after the containers (33), the attachment (26), and the cap unit (8) have been assembled.

9. The discharge device according to Claim 1, which comprises:

a pair of extended plates (56) having a window-like opening (62) and reaching the fold at the bottom by extending the lower edges of the central, front and rear portions of the elliptic cylinder (27);

a pair of manipulating plates (55) extending upward from the lower edges of the extended plates (56) via the fold at the bottom;

a pair of hanging plates (51), each having a window-like opening (61) disposed at the height of the roughly central portion;

the edge of contact (57) to be used being the upper edge of contact (57b), which is a part of the entire bottom side of this opening (61), said upper edge of contact (57b) on the bottom side being located at the position facing the opening (62) in the extended plate, and the lower portion of said hanging plate (51) being sandwiched between the extended plate (56) and the manipulating plate (55); and

a descendible projection (16) disposed at positions on the inner surface of each manipulating plate (55), said projection facing the upper edge of contact (57b) and having a guide slope (16a) inclined upward so as to come in sliding contact with the upper edge of contact (57b) on the bottom side of the window, with said guide slope (16a) extending downward from the level of contact with the upper edge of contact (57b) on the bottom side down to a depth at least enough to be able to open the discharge nozzles (35), under the condition that the cap unit (8) remains upheld by the discharge nozzles (35) after the containers (33), the attachment (26), and the cap unit (8) have been assembled.

10. The mixing and discharge device according to Claim 1, wherein the descendible projection (16) on the manipulating plate (55) is provided with a locking part (59) that allows itself to be caught by the edge of contact (57).

11. The mixing and discharge device according to Claim 10, wherein a clicking sound is emitted due to the elastic recovery deformation caused when the locking part (59) slips into the underside of the edge of contact (57) and is caught into place.

12. The mixing and discharge device according to Claim 1, wherein said device comprises a brush (2), which is provided with many thin brushing pieces (6) and is fitted to the cap unit (8), and wherein the contents from a pair of containers (33) are mixed and sent to the brush (2), where the contents are discharged to the top surface of said brush (2) from inside thereof.

13. The mixing and discharge device according to Claim 12, which comprises:

a passage block (17) to be fitted detachably to the cap unit (8) and comprising a main block body (18) and a bottom plate (22); said main block body (18) having a discharge cylinder (19) disposed on top of the central portion thereof, through which a mixing rod (20) stands upright, and having a passage wall (21a) formed underneath said main block body (18) to open a downward space; and said bottom plate (22) being connected to the rear, lower edge of said main block body (18) by a hinge, and provided with a pair of step holes (23), into which the discharge nozzles (35) are fitted tightly, projected passage members (21b) tightly fitted from underside into the passage wall (21a) to form discharge passages (21), and a tab (25) hanging from the central portion of the bottom plate (22);

a cap unit (8) comprising a main operating cylinder (9) of an elliptic shape, a top plate (11) connected to the top portion of the main operating cylinder (9), an elliptic fitting guide (12) that stands upright from the inward brim of the top plate (11), and a vertical passage cylinder (13) hanging from the center of the top plate (11) and having an exit to the inner area surrounded by the elliptic fitting guide (12), said cap unit (8) allowing the mixing rod (20) to be inserted into the vertical passage cylinder (13) thereof and also allowing the discharge cylinder (19) to be tightly fitted into the vertical passage cylinder (13) to assemble the passage block (17) into the main operating cylinder (9) detachably; and

a brush (2) to be fitted to the cap unit and comprising a dome attachment (3) covering the top plate (11), a tight-fitting cylindrical wall (4), which is disposed inside the dome attachment (3) and is fitted tightly into the elliptic fitting guide (12), a slit-like discharge port (5) that connects the dome space within the tight-fitting cylindrical wall (4) to

the outside of this brush (2), and many thin brushing pieces (6) disposed standing around the discharge port (5) on the top plate of the dome attachment (3).

14. The mixing and discharge device according to Claim 13, wherein the brush (2) is detachably fitted onto the cap unit (8).

15. The mixing and discharge device according to Claim 13, wherein the brush (2) is non-detachably fitted onto the cap unit (8).

16. The mixing and discharge device according to Claim 13, wherein the containers (33) are aerosol containers.

17. The mixing and discharge device according to Claim 13, wherein the mixing rod (20) has a tip of a blunt-headed shape.

18. The mixing and discharge device according to Claim 13, wherein reinforcing ribs (42) are prepared to reinforce the lower end of the upright mixing rod (20), and are disposed on the mouth of the discharge cylinder (19) at positions where the ribs do not block the fluid flow path.